

CLAIMS

What is claimed is:

1. A method of preserving a point-to-point protocol (PPP) session over a data network having mobile station handoff capability, the method comprising:
5 establishing a first link of the PPP session through a first path including a first wireless connection in the data network;
creating a second link associated with the PPP session through a second path including a second wireless connection in the data network; and
releasing the first link while preserving the PPP session.
- 10 2. The method as claimed in Claim 1, wherein the PPP session uses a multi-link point-to-point protocol (MLPPP).
3. The method as claimed in Claim 1, wherein releasing the first link is in response to determining that the second path better supports the PPP session than the first path.
- 15 4. The method as claimed in Claim 3, wherein determining that the second link better supports the PPP session than the first link includes determining the signal-to-noise ratios of each path.
5. The method as claimed in Claim 1, wherein creating the second link includes employing an underlying radio-link protocol to establish the wireless connection
20 in the second path.
6. The method as claimed in Claim 1, repeating for other paths through the data network.

7. The method according to Claim 1, further including maintaining at least one data table supporting the PPP session.
8. An apparatus for preserving a point-to-point (PPP) session over a data network having mobile station handoff capability, comprising:
 - 5 a mobile station (i) coupled to a first base station via a first wireless connection over a first air interface in a first base station zone and (ii) coupled to a second base station via a second wireless connection over a second air interface in a second base station zone, the first base station being coupled to a remote server via the data network, the second base station being coupled to the
 - 10 remote server via the data network; and
 - a PPP session manager (i) to establish a first link of the PPP session between the mobile station and the remote server via a first path including the first wireless connection, (ii) to create a second link of the PPP session between the mobile station and the remote server via a second path including the second
 - 15 wireless connection, and (iii) to release the first link while preserving the PPP session.
9. The apparatus as claimed in Claim 8, wherein the PPP session uses a multi-link point-to-point protocol (MLPPP).
10. The apparatus as claimed in Claim 8, wherein the PPP session manager releases
- 20 the first link in response to determining that the second link better supports the PPP session than the first link.
11. The apparatus as claimed in Claim 10, wherein the PPP session manager is notified by a radio link protocol (RLP) that the second link better supports the PPP session than the first link.

12. The apparatus as claimed in Claim 11, wherein the radio link protocol determines that the second link better supports the PPP session than the first link as a function of the signal-to-noise ratios of each path.
13. The apparatus as claimed in Claim 8, wherein the PPP session manager creates the second link by employing an underlying radio-link protocol to establish the second wireless connection in the second path.
14. The apparatus as claimed in Claim 8, wherein the PPP session manager creates and removes links for other links through the data network.
15. The apparatus as claimed in Claim 8, wherein the PPP session manager maintains at least one data table supporting the PPP session.
16. The apparatus as claimed in Claim 15, wherein the PPP session manager resides in a personal computer supporting the PPP session.
17. The apparatus as claimed in Claim 15, wherein the PPP session manager resides in a wireless modem supporting the PPP session.
18. The apparatus as claimed in Claim 15, wherein the PPP session manager resides in a gateway supporting the PPP session.
19. An apparatus for preserving a point-to-point (PPP) session over a data network having mobile station handoff capability, comprising:
 - means for establishing a first link of the PPP session through a first path including a first wireless connection in the data network;
 - means for creating a second link associated with the PPP session through a second path including a second wireless connection in the data network; and

means for releasing the first link while preserving the PPP session.

20. A computer-readable medium having stored thereon sequences of instructions, the sequences of instructions including instructions, when executed by a processor, causes the processor to perform:

5 establishing a first link of a PPP session through a first path including a first wireless connection in a data network having mobile station handoff capability;

 creating a second link associated with the PPP session through a second path including a second wireless connection in the data network; and

10 releasing the first link while preserving the PPP session.